REMARKS

The Office Action dated June 9, 2011, has been received and carefully noted. The following remarks are being submitted as a full and complete response thereto. This response is timely. Claims 1-10 and 14-17 are pending in this application. Reconsideration of the application is respectfully requested.

The Office Action rejects claims 1-10 and 14-17 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Applicants submit that the written description of the current application clearly supports the features of "composite reinforcement supports" in the Specification at, for example, page 4, lines 27-32, page 10, lines 18-22, page 12, lines 7-11, and page 14, lines 1-4, which clearly describes the nanotube reinforcement supports as being nanoscale/microscale ceramic particles and/or fibers, carbon fibers, and the like, and also teach that the composite reinforcement supports are used to provide support for the growth of the carbon nanotubes and reinforce polymer, ceramic and metal matrices. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §112, first paragraph, is respectfully requested.

The Office Action rejects claims 1-10 and 14-17 under 35 U.S.C. §112, second paragraph, as being indefinite. As discussed above, the claimed feature of "composite reinforcement supports" is clearly definite. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §112, second paragraph, is respectfully requested.

The Office Action rejects claims 1-8 and 15 under 35 U.S.C. §103(a) as being obvious over Singh et al. ("Towards the production of large-scale aligned carbon nanotubes;" Chemical Physics Letters 2003, 372, pp. 860-865) in view of Ma et al. ("Processing and properties of carbon nanotubes – nano-SiC ceramic:" Journal of

Materials Science 1998, 33, pp. 5243-5246) and Wang et al. (U.S. Patent Application Publication No. 2003/0119920); claims 1-8 and 15-16 under 35 U.S.C. §103(a) as being obvious over Rao et al. ("Synthesis of multi-walled and single-walled nanotubes, aligned –nanotube bundles and nanorods by employing organometallic precursors;" Mat. Res. Innovat. 1998; 2, pp. 128-141) in view of Ma; claims 1-4 under 35 U.S.C. §103(a) as being obvious over Rao in view of Ma; claims 9-10 under 35 U.S.C. §103(a) as being obvious over Rao in view of Wang and Choi et al. ("Controlled deposition of carbon nanotubes on a patterned substrate;" Surface Science 2000; 462, pp. 195-202); claim 17 under 35 U.S.C. §103(a) as being obvious over Rao in view of Wang and Xu et al. ("A method for fabricating large-area, patterned, carbon nanotube field emitters;" Applied Physics Letters 1999, 74(17), pp. 2549-2551); and claims 1, 5 and 15 under 35 U.S.C. §103(a) as being obvious over Singh in view of in view of Ma, Wang, Smalley et al. (WO 00/17102) and Maruyama et al. ("Low-temperature synthesis of high-purity single-walled carbon nanotubes from alcohol;" Chemical Physics Letters 2002, 360, pp. 229-234). The rejections are respectfully traversed.

In particular, the current application claims a process for obtaining carbon nanotubes bound to nanometric and/or micrometric-sized composite reinforcement supports, the process including contacting the supports with a mixture of a carbon source compound and a catalyst in a stream of inert gas and hydrogen, the step of contacting being effected by chemical vapor deposition (CVD), wherein said at least one of said supports are not SiO_2 particles or wires comprisinq a metallic material, as recited in independent claim 1.

The Office Action impliedly admits that Singh fails to teach all the features of independent claim 1, and relies on Ma and Wang to cure this deficiency by arguing

that "[s]ubstitution of these [Ma's] supports for Singh reflects substitution of known elements" (Office Action, page 12, lines 3-12).

However, a closer examination of Ma reveals that there is no stream of inert gas and hydrogen in which a catalyst and a carbon source compound are contacted. Accordingly, combining the teachings of Singh with the teachings of Ma would result in either Ma having a stream of gas added to the process, or in Singh eliminating the gas stream. However, Singh without a gas stream would be inoperative, and Ma with a gas stream would also be inoperative. Accordingly, Applicants submit that the modification of either reference with respect to a streaming inert gas would render either reference inoperative for its intended purpose. As such, the combination of Singh and Ma to arrive at the claimed invention is improper, and a combination of Sing, Ma and Wang fails to arrive at the subject matter of independent claim 1.

The Office Action also admits that Rao fails to teach all the features of independent claim 1, and relies on Ma to cure this deficiency by arguing that "[o]ne would be motivated to grow nanotubes on SiC for any number of reasons, for example the elimination of the mixing step" (Office Action, page 13, lines 14-20). However, as discussed above, Ma fails to teach a stream of inert gas and hydrogen. Accordingly, similarly to the combinability of Singh and Ma, combining Rao and Ma would result in either Ma having a stream of gas added to the process, or in Rao eliminating the gas stream, which would render either reference inoperative for its intended purpose. As such, the combination of Rao and Ma to arrive at the claimed invention is improper.

Applicants further note that none of the other applied references cure the deficiencies of the above references in disclosing or rendering obvious the features of independent claim 1.

For at least a combination of the above-discussed reasons, independent claim 1 is patentable over a combination of all the applied references. Claims 2-10 and 14-17, at least for depending from patentable claim 1, and for the additional features recited therein, are also patentable over the applied references. Accordingly, all the pending claims are patentable, and withdrawal of the rejections of the claims under 35 U.S.C. §103(a) is respectfully requested.

Should the Examiner determine that further action is necessary to place this application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event that the fees are found to be insufficient, or if any additional fees are due with respect to this paper, please charge our Deposit Account No. 01-2300, referencing Attorney Docket No. **021305-00349**.

Respectfully submitted,

Tarik M. Nabi
Registration No. 55,478

Customer Number: 004372
ARENT FOX PLLC
1050 Connecticut Avenue, N.W.,
Suite 400
Washington, D.C. 20036-5339
Tel: (202) 857-6000
Fax: (202) 638-4810

CMM:TMN